

# ANNUAL REPORT 2016-17



*Leading Mining Towards Sustainability*



## SUSTAINABLE MINING INITIATIVE

FIMI House, B-311, Okhla Industrial Area, Phase-I, New Delhi – 110 020 (India)  
Tel. (011) 26814595-97, 26814602-03, 26814598-99, Fax (011) 26814594, 26814593  
E-mail : [smi@fedmin.com](mailto:smi@fedmin.com); Website: <http://fedmin.com/smi/index.php>



## Contents

1. Introduction.....	1
2. Objectives.....	4
3. Membership.....	5
4. Code of Conduct and Sustainable Mining Principles.....	7
5. Activities of SMI.....	10
5.1 Sustainability Reviews and Technical Consultancy.....	10
5.2 Drone Applications in Mining.....	17
5.3 Environmental Change Detection Study for Mines.....	18
5.4 Preparation of R&R Plans for Iron-ore leases in Karnataka.....	18
5.5 Evaluation of Production Enhancement Proposals.....	20
5.6 Environment Committee Meeting.....	20
5.7 Publications and Knowledge Sharing .....	21
5.8 Regulatory Interventions.....	25
5.9 Conference and Workshops.....	27
5.10 Networking.....	30
5.11 FIMI Awards.....	31
6. Way Forward.....	42

## Annexure

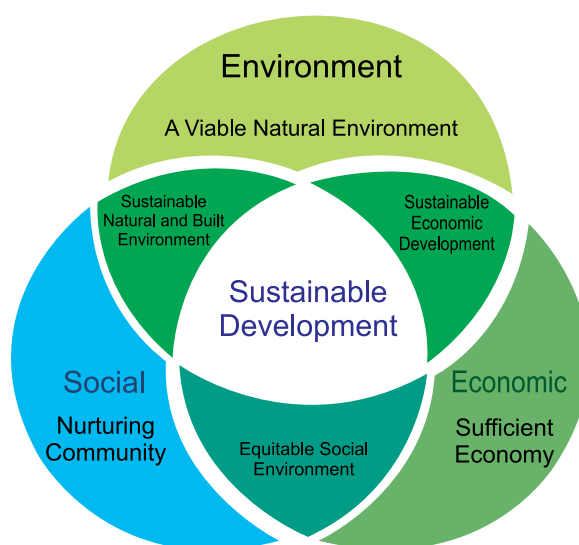
Annexure I: Key Action Points of Code of Conduct .....	44
--	----



---

## 1. Introduction

Minerals serve as the building blocks of modern society and are essential for sustaining the needs of 7.5 billion people on the Earth. As this population strives to improve its standard of living, mining has come to play a more vital role. Given the importance of mining contribution to nation's development both in terms of GDP and employment generation, sustainability has become a key enabler for the mining sector and hinges upon efficient use of resources with adequate environmental management and social upliftment measures in mining jurisdictions.



Realizing the need to mainstream sustainability in the mining sector and to counter the negative perception of mining, FIMI, launched Sustainable Mining Initiative (SMI) in 2009. The overarching aim of SMI is to promote the tangible and measurable concepts of sustainable mining, assist the mining sector to inculcate sustainable practices in mining operations and tackle the industry-wide challenges of environmental management and socio-economic development.

SMI, in its 8 years of journey since 2009, has grown in stature for leading the sustainable movement in the Indian mining sector and serves as a driving force for change and continual improvement on issues relating to mining and sustainable development in India. SMI engages with all stakeholders including government, industry, communities, civil societies, academia etc. to positively influence Indian



---

policy and regulations to promote sustainable mining. It has also been a great honor for SMI to be recommended by the Central Empowered Committee (CEC) and subsequently entrusted by the Hon'ble Supreme Court to prepare the Reclamation & Rehabilitation Plans (R&R Plans) for 'A' and 'B' category mines in Karnataka in 2011 and to evaluate their production enhancement proposals. SMI has defined a pathway through its Code of Conduct and follow-up activities to help the mining sector address sustainability issues. The SMI Code of Conduct is a set of 10 sustainable mining principles for voluntary adoption by companies to become SMI members; and is also the first step towards sustainable mining in India.

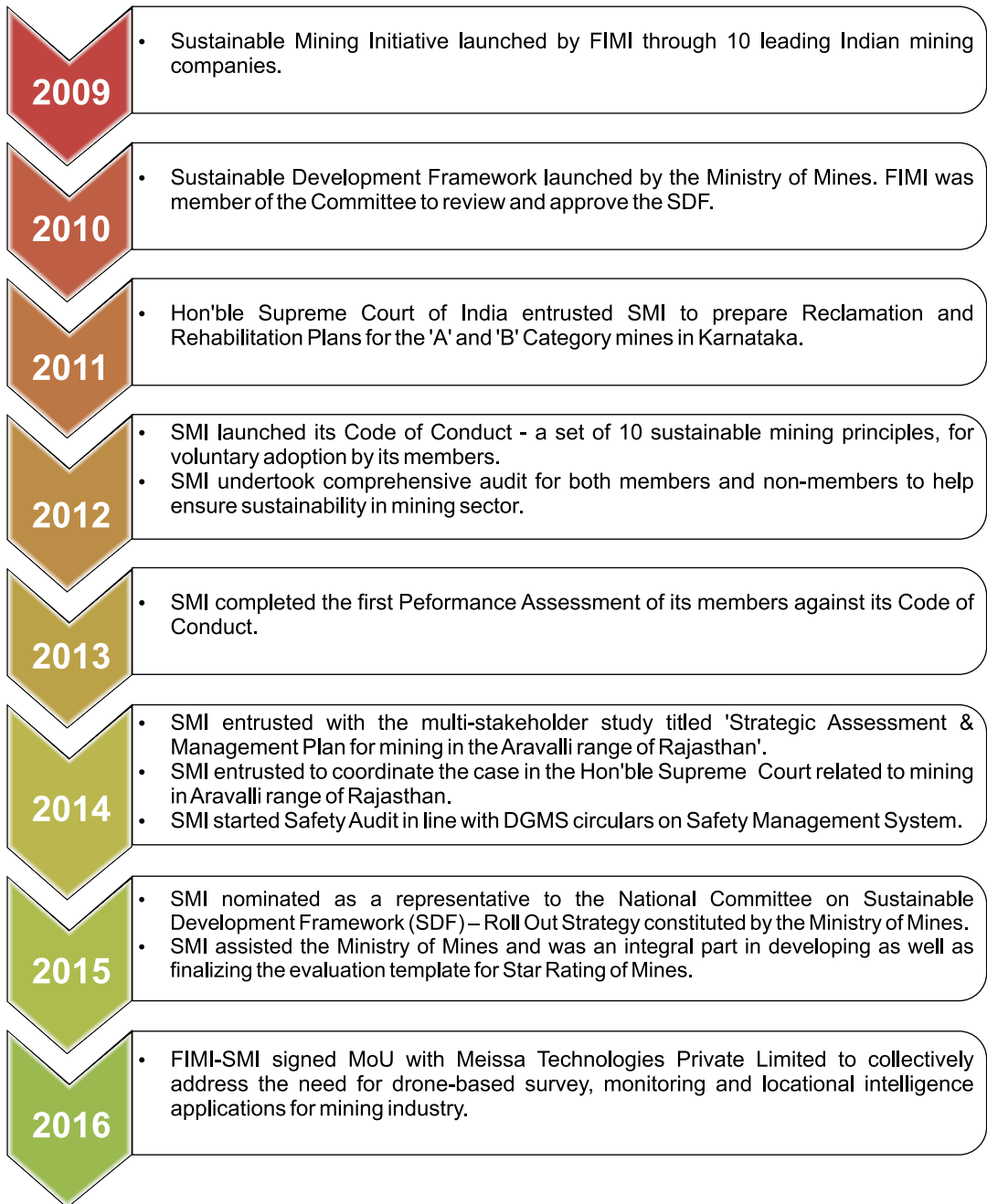
SMI has evolved itself as an important encouragement for the inclusive and responsible growth of the mining sector. SMI has been effectively working with the mining industry to integrate sustainable practices and bring out the optimistic aspects of mining. Moreover, SMI has also been entrusted with high level engagements in mining sector both by the Government and the Industry.

SMI assisted the Ministry of Mines to implement Sustainable Development Framework (SDF) at individual mine level and has been an integral part in developing the Star Rating of Mine scheme. Owing to SMI's contribution in formulating and finalizing the Star Rating Scheme, the Ministry of Mines has particularly recognized SMI's capacity and appreciated its work. Presently, SMI is part of the 5-member Executive Committee constituted by Ministry of Mines to monitor the Star Rating Scheme in India.

SMI has considerably moved on the path of fulfilling its objectives and is dedicated to progress further this year.

This report provides an overview of SMI's objectives, milestones, various activities and major achievements during the year 2016-17.

## SMI – Milestones

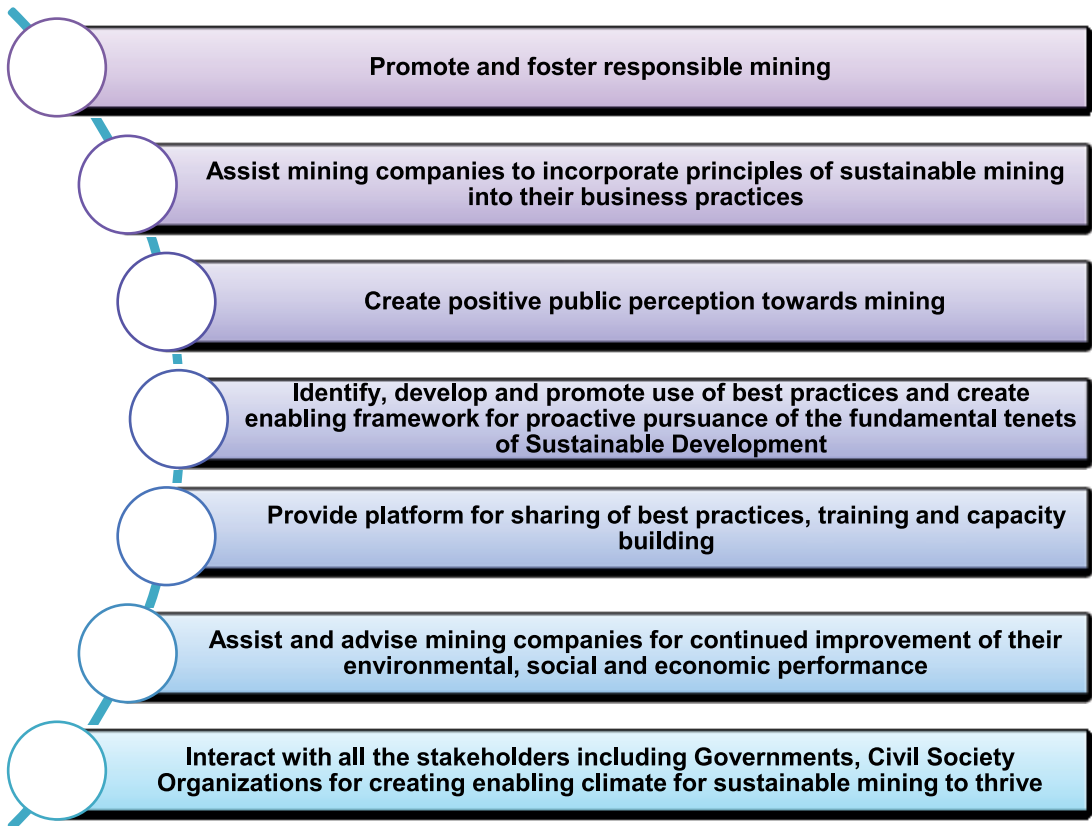


---

## 2. Objectives

Mining sector plays an important role in meeting the ever increasing demand for minerals and metals for high economic growth rate of the country and also to help the population progress its standard of living. The challenge for the sector is to incorporate the environmental, social and sustainability concerns into the business so as to ensure responsible extraction of minerals and metals in a holistic manner, while contributing to national and community development.

To ensure that the integration process mentioned above happens, SMI has outlined its specific objectives to mainstream sustainability in the mining sector :



Objectives of SMI

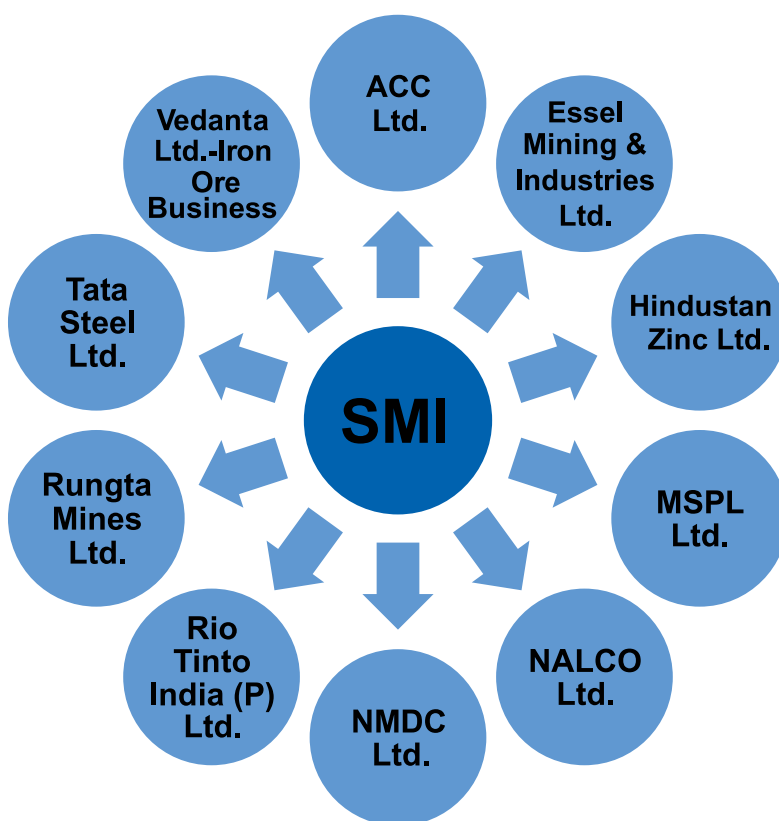
---

### 3. Membership

Mining companies have become the member of SMI by voluntarily adopting the Code of Conduct, comprising of ten sustainability principles. Currently, 26 responsible mining companies have adopted the Code and have become SMI members.

#### Founding and Governing Council Members

Ten of the premier mining companies were the pioneer to come together and support the formation of SMI. These ten companies are the **Founding** and **Governing Council Members** of SMI. Subsequently, sixteen more mining companies have joined SMI as **Associate Members**.



#### Governing Council Members of SMI



### Associate Members of SMI

The Governing Council of SMI comprises of the ten founding members and the President, Vice-Presidents and Secretary General of FIMI as permanent ex-officio members. The Governing Council meets quarterly to review SMI's progress towards achieving its objectives and to provide guidance/direction for undertaking new programmes to accelerate the process. During the year 2016-17, the Governing Council meetings were held on the following dates:

1. 9th May, 2016 at Mayfair Lagoon, Bhubaneswar
2. 15th September, 2016 at Vivanta by Taj, Bangalore
3. 8th December, 2016 at FIMI Office, New Delhi



---

## 4. Code of Conduct and Sustainable Mining Principles

SMI launched its 'Code of Conduct' (CoC) on August 4, 2012. The CoC is a set of 10 sustainable mining principles meant for voluntary adoption by FIMI members and on adopting the Code, the FIMI member becomes a member of SMI.

This CoC aims to provide a framework to mining companies and entrepreneurs to adopt 'good behavior', open themselves to measurement and scrutiny, and reduce the negative perceptions about the mining sector so widely prevalent today.

Member companies have made a commitment to advance their sustainability performance and are required to report against their progress on an annual basis.



The CoC has been evolved in line with the expectation of the stakeholders, and aligns with international statements like ICMM's Sustainable Development Framework, with suitable modifications to suit Indian requirements.

---

## *Sustainable Mining Principles*



*Key action points in respect of each of these principles are mentioned in Annexure-I.*

Adoption of these principles is expected to result in improved sustainability performance of the Indian mining sector, thereby improving the society's perceptions about the mining industry and reduce the tough stance of government, judiciary and society in general.

SMI annually conducts performance assessment of its member companies, through desktop assessment and site visit (optional), against the Code of Conduct to ensure the commitment of the companies to move towards sustainable development. The annual performance assessment report is published in SMI report and uploaded on the website. Members' performance assessment against Code of Conduct has been completed for 2015-16 and published on SMI website [www.fedmin.com/smi](http://www.fedmin.com/smi).

## ASSESSMENT REPORT

Assessment Report 2015-16											
Sl. No.	Members↓	1	2	3	4	5	6	7	8	9	10
GOVERNING COUNCIL MEMBERS											
1	ACC Limited										
2	Essel Mining and Industries Ltd.										
3	Hindustan Zinc Limited										
4	MSPL Ltd.										
5	NALCO										
6	NMDC Ltd.										
7	Rio Tinto India (P) Ltd.										
8	Rungta Mines Ltd.										
9	TATA Steel Ltd.										
10	Vedanta Ltd. - Iron Ore										
ASSOCIATE MEMBERS											
11	Wolkem Industries Ltd										
12	M/s. Praveen Chandra										
13	M/s. M.G. Mohanty										
14	Mineral Enterprise Ltd										
15	MGM Minerals Ltd										
16	M/s. S. N. Mohanty										
17	BALCO										
18	Associate Soapstone Distributing Co. Pvt Ltd										
19	Hothur Ispat Pvt Ltd.										
20	Sandur Manganese and Iron Ores Limited										
21	BKG Group										
22	M/s. Sri Kumaraswamy Mineral Exports (P) Ltd										
23	Trimex Industries Pvt. Ltd.										
24	IMFA Group										
25	Serajuddin & Co.										
26	Dalmia Cement (Bharat) Ltd.										
INDEX FOR COLOUR CODE											
	Policies framed and Implementation substantially progressed										
	Policies framed and Implementation in progress										
	Policies framing in progress, Implementation substantially progressed										
	Both Policy framing and implementation in progress										
	Information not provided for desktop assessment										

---

## 5. Activities of SMI

SMI undertakes various activities to achieve its objectives, viz., mainstreaming scientific and sustainable mining practices, promoting ethical behavior and ensuring responsible extraction of minerals, thereby enhancing mining sector's contribution to sustainable development in the country.

There are many ongoing activities and projects, which have been undertaken to support the sustainable mining agenda of SMI.

### 5.1 Sustainability Reviews and Technical Consultancy

As part of its objective to integrate sustainability concerns into the mining business and to ensure responsible extraction of minerals in India, FIMI-SMI has been assisting and advising mining companies to continually improve their environmental, social and economic performance through its Sustainability Review System.

SMI undertakes Sustainability Review assignments for mining leases belonging to its members as well as non-members. The objective is to review the environmental, socio-economic, health & safety performance of mines (both from compliance as well as a sustainability perspective) to identify and appraise the best practices to identify the areas of further improvements and help companies in these domain and reduce long term risks. SMI's Sustainability Review also assists various mines to identify critical areas, manage key risks, comply with the statutes, leverage on various opportunities to enhance their overall sustainability performance and help to improve performance for achieving required Star Rating.

SMI undertakes Sustainability Review assignments for mining leases belonging to its members as well as non-members. SMI has a team of domain experts having hands on rich experience, knowledge and insight into the regulatory & policy framework and international sustainable mining practices.

SMI undertakes these reviews at various levels:

1. Sustainability Review
2. Environment Review
3. Health & Safety Review
4. Customized report as per client requirement
5. Technical Consultancy
6. Preparation of Geological Report, Environment Impact Assessment (EIA) and Environment Management Plan (EMP) for mines

---

## ❖ Sustainability Review

Sustainability Review is the balanced and reasonable reporting of the sustainability performance of a mine. SMI sustainability review covers the following aspects:

- Consents & Compliances status
- Study of operations and processes in the mine
- Review of economic performance
- Environment Review
- Health & Safety Review and Risk Assessment
- Social Performance of the mine
- Identify and appraise the best practices
- Areas for further improvement/improving performance
- Suggest suitable best practices that may be adopted
- To suggest upon for further improvements in achieving higher star rating of mines

## ❖ Environment Review

The environment review is a systematic, documented, periodic and objective evaluation of how well environmental statutes are met and the environment performance of the mine.

The scope of the review is mentioned below:

- SMI analyses and evaluates the Environment Impact Assessment and Environment Management Plan (EMP) effectively and suggests further action plans
- To check whether the mine is following all conditions and compliances and other related statutes as mentioned in Environment Clearance, Forest Clearance
- Consent to Operate are implemented and followed properly
- Management of Top Soil
- Mitigating environmental impacts of mining operations
- Dump Management
- Water Quality Management
- Air Quality Management
- Noise/Ground Vibrations
- Waste Management
- Energy conservation
- Suggestion and Recommendation



---

## ❖ **Health & Safety Review**

Health & Safety review identifies and rank the safety risks or hazards in the mine and suggest measures for mitigation, so as to enable the Mine Manager prioritize his/her action for enhanced safety performance of the mine. SMI conducts Health & Safety review in line with the DGMS circular. These safety review covers safety management systems as suggested in DGMS circulars 13 of 2002, 8 of 2009 and 2 of 2011.

- DGMS Circular 13 of 2001: The main aim of this guideline is to introduce new methods to assess and manage hazards in mines.
- DGMS Circular 8 of 2009: Third party system study and safety audit should be conducted once in every year or after major accident or disaster or dangerous occurrence.
- DGMS Circular 2 of 2011: The main aim of this guideline is to introduce new methods to assess and manage hazards in mines.
- Risk assessment and ranking

## ❖ **Customized review report as per client requirement**

SMI also prepares customized report based on client's requirement. These review assignments will help various mines across the country to –

- Evaluate compliances to various applicable statutes and regulations
- Evaluate the current environment and operational condition of the mines
- Rank the associated risks
- Aid and advise the lessees to improve continuously on the sustainability front
- Highlight the areas of excellence in the mine
- Keep abreast with the recent developments and global best practices

Till date, SMI has completed sustainability review for 71 mines including safety review for 8 mines and customized review for 2 mine as per client's requirement and helped these mines to identify critical areas, manage key risks, comply with the statutes and leverage on various opportunities to enhance their environmental, social, economic and safety performance.

---

## TECHNICAL CONSULTANCY PROCESS

### Understanding Customer's Need

- Understanding customer needs
- Inputs available with customer
- Inputs to be gathered either from various sources or by field work
- Delineating technical study including field works
- Type of output

### Techno-commercial offer

- Document preparation that will contain:
  - Customer needs
  - Customer inputs
  - Method of study
  - Team of study
  - Fieldwork
  - Output
  - Timelines of activities
  - Fees, payments and other terms and conditions

Similar steps are also followed for the sustainability review assignments.

---

## SUSTAINABILITY REVIEW SYSTEM

### Request For Review

- Submission of required documents as per SMI's checklist
- Documents review

### Site Visit

- Visit of mine, plant, dumps and nearby areas
- Capture Operational performance, Environment, OHS, CSR works
- Discussion with management

### Draft Report

- Compliance Status
- Review Findings
- Sustainability Aspects of Mining
- Potential for Improvement
- Facilitating for improving Star Rating of Mines
- Suggestions & Recommendations

### Final Review Report

- Final report, after incorporating feedback of the management

***“Minerals are the wealth of earth, constitutes the precious gift from the earth that is/will be used for thousands of years. Indeed, minerals are fundamental to many sectors of human life and activity”***

## List of Reviews / Audits completed

S. No.	Name of the Company	No. of Mines audited/reviewed
Sustainability Review		
1.	Ambuja Cements Ltd., Himachal Pradesh, Maharashtra, Chhattisgarh, Rajasthan, Gujarat (Limestone)	9
2.	Vedanta Limited, Goa & Karnataka (Iron ore)	5
3.	Mineral Enterprises Limited, Karnataka (Iron ore)	2
4.	Mahavir Trading Company (Soapstone)	1
5.	S N Mohanty, Odisha (Iron ore, Manganese, Bauxite)	4
6.	Wolkem Industries Ltd., Rajasthan (Wollastonite)	2
7.	H L Nathurmal, Goa (Iron ore)	1
8.	BALCO, Chhattisgarh (Bauxite)	2
9.	ACC Limited, Karnataka (Limestone)	1
10.	Magnum Minerals, Goa (Iron ore)	2
11.	Penguin Trading & Agencies Ltd., Odisha (Iron ore)	1
12.	Rungta Group, Odisha (Iron & Manganese)	5
13.	Ultratech Cement Ltd, Karnataka and Andhra Pradesh (Stone quarries for aggregates)	2
14.	MGM Minerals, Odisha (Iron & Manganese)	3
15.	National Enterprises, Odisha	2
16.	Hindustan Zinc Limited – Sindesar Khurd Mine, Rajasthan (Zinc)	1
17.	Golcha Associated Group, Rajasthan (Soapstone)	2
18.	S N Mohanty, Odisha– Follow up Audit (Iron & Bauxite)	3
19.	Balasore Alloys Limited, Odisha (Chromite)	1
20.	NMDC Limited - Bachel Complex and Kirandul Complex (Iron ore), Chhattisgarh	6
21.	MGM Minerals, Odisha (Iron & Manganese)	1
22.	S N Mohanty, Odisha (Iron, Manganese, Bauxite)	3
23.	M G Mohanty, Odisha (Iron & Bauxite)	2
Sub Total		<b>61</b>
Customized review report as per client requirement		
24.	NALCO, Panchpatmali Bauxite Mine, Odisha (Bauxite)	2
Safety Review		
25.	Mysore Minerals Limited, Karnataka (Iron ore)	8
Grand Total		<b>71</b>

---

## Our Hosts



Balasure Alloys Limited



**Mysore Minerals Limited**

Government of Karnataka Undertaking



---

## 5.2 Drone Applications in Mining

The unmanned aerial vehicles (UAV) commonly known as Drones are equipped with digital cameras to capture high resolution aerial imagery which can be further processed to produce 3D model. This technology has wide applications in the field of mining sector especially producing virtual images, maps, plans and aerial photographs of mines.

In India, drones can be used for tracking illegal mining, mine survey and plan preparation, aerial inspection and support mineral exploration. Ministry of Mines is carrying out research to discover the use of drones, considering the facts of its quick, easy and advanced technology. Drone can easily survey the whole mining area, analyze the area belonging to dumps or to the green area, assess the depth to which the miner can go, track production of minerals with the help of aerial images and track movement of raw material on day to day basis. It helps to provide fast, reliable and timely management information system (MIS) for the company to take up strategic decision faster so that mine productivity can be improved significantly.

FIMI-SMI has signed MoU with Meissa Technologies Private Limited (WeDoSky) to collectively address the need for drone-based survey and monitoring business and locational intelligence applications for mining industry. Meanwhile, several mining companies have shown keen interest in taking up the services offered by SMI-WeDoSky for both greenfield and brownfield projects.

Drone is preferred over conventional manual surveying techniques because it can complete the entire mine survey 72 times faster than manual survey. This technology saves sufficient time and provides desired output. Drone has the ability to map 60 acres of land in less than 15 min. It aviates at a lower height without disturbing the mining operations. In addition to this, it provides solutions for stockpile and waste management, reclamation and refilling management, pre/post blast design, haul road design, resource calculations, property rights definition and conveyor belt inspection. etc. It has the potential to simultaneously capture geo-locations and imagery of the region from multiple view-points and provide information about the region.

---

### 5.3 Environmental Change Detection Study for Mines

FIMI-SMI has taken up a comprehensive study to assess the impact of the mining project on the environment over the period 2011 (pre-mining) to 2016 (present status) for Parsa East and Kanta Basan (PEKB) opencast coal mining project.

Objective of the Study:

1. To identify and assess the impact of the mine on the environment and its various components viz., green cover, air, water (ground as well as surface water), land, noise, ground vibration, etc. The study is restricted to core and buffer zone upto a 10km radius from mine boundary.
2. To carry out Land Use Land Cover (LULC) change detection study (over half-a-decade) through the help of satellite imageries for the PEKB coal block.

The study methodology includes Land Use Land Cover (LULC) change studies over a period (2011-16) using satellite imageries, in addition to field surveys, extensive primary and secondary data collection. The study correlates the impacts of mining vis-à-vis other anthropogenic activities with dense green cover, green cover, agricultural land, fallow land, open scrub, water bodies, plantation, mining area and built-up area.

### 5.4 Preparation of R&R Plans for Iron-ore leases in Karnataka

Consequent upon complaints of large scale illegal mining in three districts – Bellary, Chitradurga and Tumkur – of Karnataka, the Hon'ble Supreme Court of India had stopped mining operations in 166 mining leases in 2011. On recommendation of the Central Empowered Committee (CEC), **the Hon'ble Supreme Court entrusted SMI along with ICFRE to prepare the Reclamation & Rehabilitation plans (R&R Plans) and Supplementary Environment Safeguard Plans (SESP) for 'A' and 'B' category Iron-ore mining leases** in these three districts of Karnataka. The preparation and implementation of these R&R Plans was one of the pre-requisites for re-opening of the above mining leases. The work done by SMI has been well acknowledged and appreciated by all stakeholder including the Govt. of India as well as the industry.

SMI believes that the process of preparation and implementation of R&R Plans converges with SMI's agenda of sustainable mining. SMI prepared & submitted the R&R reports of 99 leases of A & B category mines. Details of the work done by SMI is provided below

Particulars	A Category	B Category	Total
Total No. of Mines	46	69	115
R&R Plan prepared and submitted to ICFRE by SMI	38*	61	99
R&R Plan prepared and submitted to CEC by ICFRE	38	56	94
R&R Plan approved by CEC	38	56	94

Working mines after satisfactory R&R implementation	20	16	36
Mines implemented substantial R&R	7	24	31
Mines in slow progress R&R	5	11	16
Mines yet to implement R&R	6	5	11
Mines not shown interest to submit data for R&R	7	4	11
Mines to submit report after interstate boundary survey	0	7	7
Mines whose R&R plan is under preparation by ICFRE	1	2	3
Mines whose R&R plan is to be approved by CEC	0	0	0
<b>Total</b>			<b>115</b>

\*One R&R Plan of A Category mine has been prepared in April, 2017

**Note:** 36 mines are operating now after implementing R&R measures with total production capacity of 27.96 million tons.

---

## **5.5 Evaluation of Production Enhancement proposals**

CEC has directed SMI to evaluate 41 number of production enhancement proposals of A & B category mines of Karnataka. The proposals were from the mines which have successfully implemented R&R Plan and enhanced resource base by exploration and addressed issues related to dump & road capacity. Out of 41 proposals, SMI has evaluated 35 proposals and submitted the reports to CEC. 6 evaluation assignments are pending due to the information yet to be submitted by the respective lessees. Out of 35 reports submitted by FIMI, CEC had considered Production Enhancement proposals of 13 lessees. Another 22 production enhancement proposals are under process with CEC/ICFRE/Technical Committee. Out of these 22 proposals, 13 proposals have been considered by technical committee. However, CEC has asked certain information before considering these cases. The information has been submitted by SMI to the Technical Committee in this regard.

## **5.6 Environment Committee Meetings**

SMI has constituted an Environment Committee (EC), which is functional since October 2012. The EC has 16 members, comprising of experts in mining and environment domain nominated by SMI member companies and representatives of Regional Mining Associations. SMI-EC had 10 meetings so far till March, 2017.

The EC deliberates primarily on sustainable mining issues faced by the mining industry, with the following aim: -

1. To exchange information regarding environmental laws, issues, circulars, amendments etc and seeking inputs from the members on regulatory scenario in various regions and how to comply.
2. To exchange knowledge/information on best practices.
3. To discuss and arrive at consensus on policies, technologies and methodologies for improved compliance with regulatory requirements and best practices on environmental and social issues affecting mining industries.

Presently, SMI-EC is constituted with the following members:

From Governing Council of SMI		From Regional / Industry Associations	Others
ACC Ltd.	NMDC	GMOEA	Golder Associates Consulting (India) Pvt. Ltd.
Essel Mining & Industries Ltd.	Rio Tinto India Pvt. Ltd.	EZMA	Ecomen Laboratories Pvt. Ltd.
Hindustan Zinc Ltd.	Vedanta Ltd.	FOMAR	Geomin Consultants Pvt. Ltd.
MSPL Ltd.	Tata Steel Ltd.	CMA	
		FIGSI	

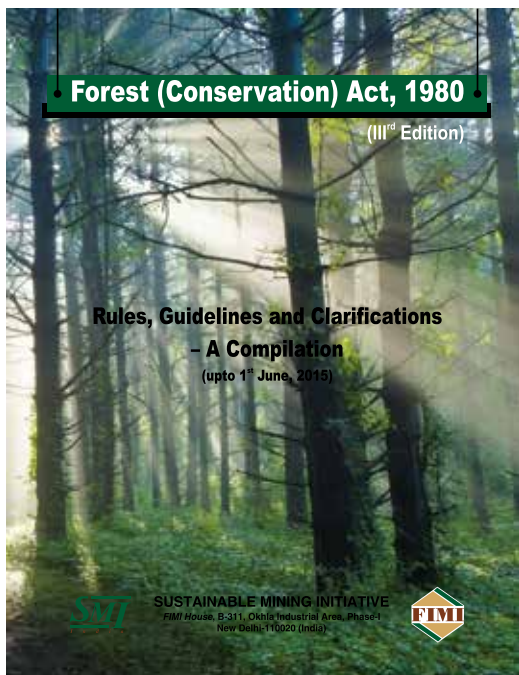
## 5.7 Publications and Knowledge Sharing

SMI acts as a nodal agency and works constantly in collaboration with various mining companies, think-tanks and regulators. It also engages with various international bodies such as ICM, IUCN, WB, IFC, PDAC, Minerals Council of Australia, etc. on development of sustainable mining, which enables SMI to improve networking and share information to capture international best practices.

All these enable SMI to be at the forefront of knowledge related to sustainable mining, which SMI disseminates within its members. SMI also gathers information from GRI, UNEP, WEF, EITI, etc. and disseminates information to its members.

Apart from the above knowledge sharing activities, SMI also brings out publications on a variety of topics for the benefit of the mining industry and other stakeholders, with an aim to keep them updated with the dynamic mining scenario in India and to provide relevant information in an easy and readily accessible manner. Some of these publications include: -





## Forest (Conservation) Act, 1980: Rules, Guidelines and Clarifications – III<sup>rd</sup> Edition

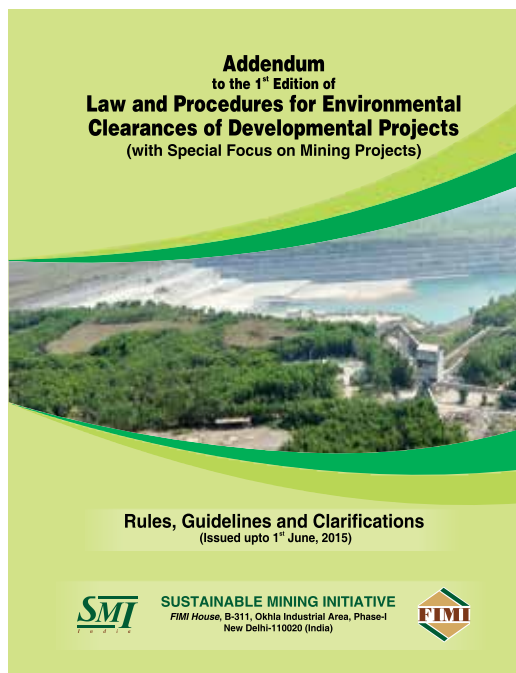
*Compilation of all the  
amendments in the Act and  
guidelines issued till date*

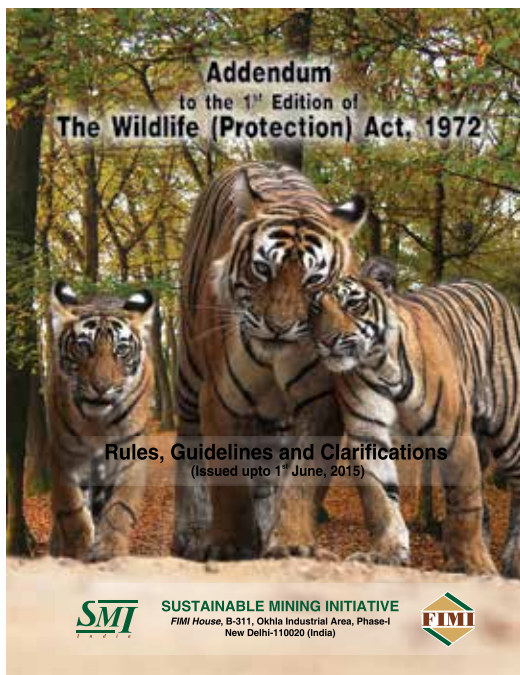
*(Price: 1500/-+Courier Charge)*

## Addendum to the 1<sup>st</sup> edition of Law and Procedures for Environmental Clearances of Developmental Projects

*Compilation of all the  
amendments in the Act and  
guidelines issued till date*

*(Price: 1500/-+Courier Charge)*





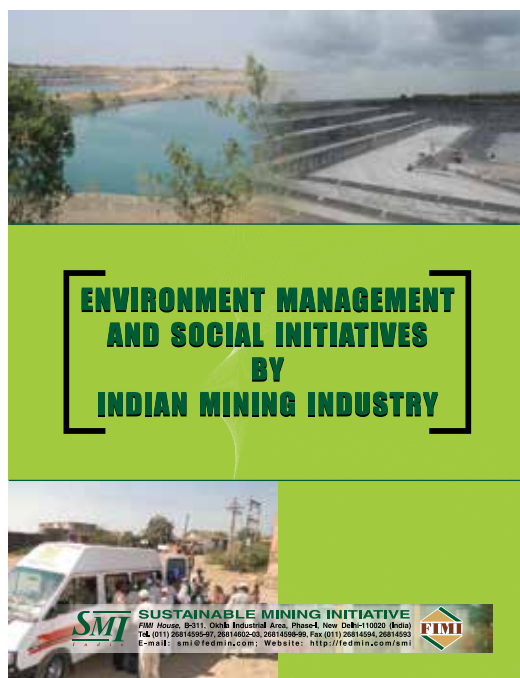
## **Addendum to the 1<sup>st</sup> edition of The Wildlife (Protection) Act, 1972 : Rules, Guidelines and Clarifications**

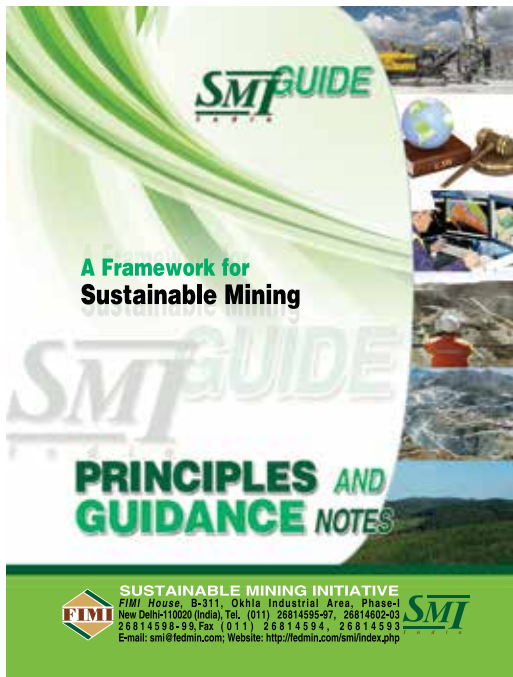
*Compilation of all the  
amendments in the Act and  
guidelines issued till date*

*(Price: 1500/-+Courier Charge)*

## **Environment Management & Social Initiatives by Indian Mining Industry**

*Highlights the best practices in  
environment management, R&R and  
socio-economic development by mining  
industry. Aims to bring out the positive  
aspects of mining and improve the  
public perception towards mining.*





## **SMI Guide: A Framework for Sustainable Mining**

*'Practical tips & guidelines for carrying out sustainable mining'*

---

## 5.8 Regulatory Interventions

At SMI, we believe that regulatory environment - laws and regulations including enforcement thereof – plays an extremely crucial role in determining the performance and behavior of individuals and industry sectors. SMI believes that laws should be rational, implementable, and cost-effective (in the sense that benefits to the society should exceed the cost to the society due to the additional regulations).

SMI has been striving to persuade the government to simplify regulations and improve its enforcement leading to much better levels of compliance. While Fraser Institute's Survey for 2015-16 ranks India at the 97<sup>th</sup> position out of 104 jurisdictions globally in a comprehensive assessment of the attractiveness of mining regulations and policies, the World Bank has placed India in 130<sup>th</sup> position out of 189 countries in its “Ease of Doing Business Report, June 2016”, and these are definitely not the indicators of a progressive mining jurisdiction.

We believe that the complex regulatory scenario governing mining sector in India runs counter to the objective of promoting sustainable mining practices. SMI, therefore, while advising its members to strictly comply with the existing regulations – in letter and spirit – advocates for a simpler regulatory framework which will be easier to comply and enforce. Such a framework should also be associated with integration of laws – currently in the domain of various ministries and departments of State and Central Governments – and with tighter enforcement and stringent and prompt punishments.

The representations are finalized taking into account the comments and inputs from the members and dedicated efforts are made to solve the problems. These interventions have received positive response from the Ministries in the form of SMI's representations in their Committees and amendments to various regulations, which have been appreciated by the members as well.

Among numerous representations, some of the important regulatory interventions undertaken by SMI-FIMI during 2016-17 are listed below:

1.	<b>Validity of Environmental Clearance (EC) for a maximum period of 50 years</b> in tandem with lease period of 50 years as defined in MMDR Amendment Act 2015.
2.	<b>Extension of timeline to obtain forest clearance over forest land in mining leases treated as non-forest (HAL/SABIK)</b> during lease execution – Considered by MOEF&CC and timeline extended by six months.
3.	<b>Simplification of procedure for Compensatory Afforestation (CA)</b> as well as creation of land banks for CA and delinking the project proponent from CA obligations after fulfilling payment for CA land.

4.	<b>Representation to the Ministry of Mines highlighting the adverse impacts of proposed NPV rates</b> both on the existing mines and new mines to be won through auction; <b>with a request to pursue MoEF&amp;CC to continue existing NPV rates and not to insist on differential NPV payment as and when NPV rates are revised.</b>
5.	<b>Expediting the approval under section 2(iii) of FC Act, 1980 for facilitating the pending cases saved under Section 10A(2)(c) of MMDR Amendment Act, 2015</b> – Request to expedite the approval under Section 2(iii) of FC Act 1980 for the cases pending at MoEF&CC
6.	Request for exemption of public hearing for capacity expansion by non-coal mining projects
7.	<b>Representation for extending general approval under section 2(iii) of FC Act, where stage II forest clearance under section 2 has already been accorded to a part of the forest land in case of applications for mining leases falling under 10A (2)(c) of MMDR Amendment Act</b>
8.	<b>Request for Amendment of Environment Clearance (EC) Capacity in line with definition of Run-of-Mine (ROM) as per the Minerals (Other than Atomic and Hydrocarbons Energy Minerals) Concession Rules 2016 recently notified by the Ministry of Mines</b>
9.	<b>Request for further extension of time for complying with the requirements of Guideline F.No.11 -85/2016-FC dated 31<sup>st</sup> March, 2016, regarding diversion of forest land for non-forest purposes under the FC Act 1980</b> – Submission of proposals to obtain approval for diversion of entire forest land located within a mining lease
10.	Request to issue clarification with regard to mining operation should not be stopped in such part of forest land which is already accorded diversion/forest clearance under section 2(ii) of FC Act, 1980, have already obtained FRA certificate of that part of the forest land and have also deposited NPV in Ad-hoc CAMPA in respect of entire forest land involved in the mining lease
11	<b>Representation on the acceptance of primary baseline data in EIA/EMP reports collected prior to date of application for issuance of Terms of Reference (TOR)</b> – Request to consider the validity of primary baseline data as 3 years and with a view to reduce the lead time for preparation of EIA/EMP report, proponent may be permitted to use the primary baseline data collected even before the submission of online application for issuance of TOR provided collected primary baseline data is in line with the standard TOR
12	<b>Guidelines for diversion of forest land for non-forestry purposes under the Forest (Conservation) Act, 1980</b> – <b>Submission of proposal to obtain approval for diversion of entire forest land located within a mining lease</b> - Request to consider issuing a clarification for allowing mining operations to continue in non-forest land in leases for which the process of obtaining forest clearance under section 2(ii) or 2(iii) of FC Act, 1980 has been initiated and NPV payment has been made for entire forest area.

---

## 5.9 Conferences and Workshops

SMI organizes conferences and workshops around the country to promote sustainable mining. The events focus on updating stakeholders about legal requirements & compliance matters in mining projects, sustainable mining practices adopted in different parts of the world, other aspects of sustainable mining stakeholders' engagement processes, social and environmental issues etc.

### Events

SMI events have been receiving active support of the industry and government. SMI organizes the Sustainable Mining Summit every year, with an objective to share views and issues of the sector including regulations, technical aspects, etc.

**2012:** The “Sustainable Mining Summit 2012” was organized in Goa on 13<sup>th</sup>-14<sup>th</sup> January, 2012. Theme: Mining for Sustainability- Beyond Compliance

**2013:** The “Sustainable Mining Summit 2013” was organized in Goa on 22<sup>nd</sup>-23<sup>rd</sup> April, 2013. Theme: Raw Material Security for metal industries and Sustainable Mining

**2014:** The “Sustainable Mining Summit 2014” was organized in Goa on 17<sup>th</sup>-18<sup>th</sup> July, 2014. Theme : Raw Material Security and Sustainable Mining

**2015:** The “Sustainable Mining Summit 2015” was organized in Goa on 17<sup>th</sup>-18<sup>th</sup> April, 2015. Theme : Sustainable Mining for Unlocking Indian Mineral Resource.

**2016:** The “Sustainable Mining Summit 2016” was organized in Bhubaneswar on 10<sup>th</sup>-11<sup>th</sup> May, 2016. Theme: Environmentally sound practices and technologies in the mineral sector.

The Summit was deliberated on the following sub-themes:

1. Mining: Global and Regulatory Scenario
2. Mine Management and Mine Closure
3. Health, Safety and Environment
4. Corporate Social responsibility (CSR) Initiative – Mining Sector





The Sustainable Mining Summit 2016 was inaugurated by Shri Deepak Kumar Sinha, Inspector General of Forest for Ministry of Environment, Forests & Climate Change, New Delhi and was attended by more than 130 delegates from various mining companies, civil societies, government departments and other organizations. 21 Presentations were made from top regulators, senior bureaucrats and industry leaders in 4 sessions, followed by a panel discussion on regulatory reforms in Indian mining industry. All recommendations arising out of the Summit were sent to the Government for their kind attention and appropriate action.

---

### **Other Conferences & Workshops:**

SMI also actively participates and shares its views in other forums, mining conferences and seminars to promote sustainability in the sector. Some of the seminars attended by delegates of SMI in the year are:

1. **Industry Interactive Session** with Shri Prakash Javadekar, Hon'ble Minister, Ministry of Environment, Forest and Climate Change on 12<sup>th</sup> April, 2016 at FICCI.
2. FIMI had organized a workshop on **Stakeholder Consultation for Star Rating of Mines** and to discuss & seek industry's inputs on SDF Evaluation Template at the initiation of Ministry of Mines on 19<sup>th</sup> April, 2016.
3. Mr. B.K. Bhatia, Director, FIMI and Mr. Sitaram Kemmannu, CEO, SMI – FIMI attended the Seminar on “**Mineral Exploration in India – The road Ahead**” organized by **Ministry of Mines** on 15<sup>th</sup> November, 2016 at India Habitat Centre (IHC), New Delhi.
4. Mr. B.K. Bhatia, Director, FIMI and Mr. Sitaram Kemmannu, CEO, SMI – FIMI attended the Seminar on **Developing a Road-map on Sandstone Stewardship** being conducted by Centre for Responsible Business (CRB) on 18<sup>th</sup> November, 2016 at India Habitat Centre (IHC), New Delhi.
5. Mr. Sitaram Kemmannu, CEO, SMI – FIMI and Ms. Akanksha, Environment Executive, SMI-FIMI attended the annual conference on “**Securing The Forests, Land, And Soils For All – Coherence in policies and actions for healthy ecosystems**” on 23<sup>rd</sup> November, 2016 at India International Centre, New Delhi.
6. Mr. B. K. Bhatia, Director, FIMI, Mr. Sitaram Kemmannu, CEO-SMI, Mr. Ashis Dash, Director, SMI attended National Workshop on “**Remediation of mined out areas and abandoned mines - Status & Strategies**” on 19<sup>th</sup> December, 2016 at the India Habitat Centre, New Delhi, organized by Ministry of Mines in association with IBM & TERI. Ms. Akanksha, Environment Executive, SMI made a presentation on “Reclamation and Rehabilitation of mined - out areas – Best Practices”.



- 
7. Mr. B.K. Bhatia, Director, FIMI, Mr. Sitaram Kemmannu, CEO, SMI and Mr. Ashis Dash, Director, SMI attended the **2<sup>nd</sup> National Conclave on Mines & Minerals** on 15<sup>th</sup> February, 2017: Convention Centre, Hotel Ashoka, New Delhi.

### 5.10 Networking

Realizing the importance of sharing information in mining to move together towards sustainability, SMI regularly interacts and collaborates with national and international level organization. SMI collaborates and shares global information on development of sustainable mining & disseminates the same to the industry. Networking provides for a platform to absorb as well as share global best practices in the sector.

List of few organizations with whom SMI constantly interacts and networks is given below:

1. International Council on Mining & Metals (ICMM)
2. International Union for Conservation of Nature (IUCN)
3. United Nation Environment Programme (UNEP)
4. World Economic Forum (WEP)
5. Extractive Industry Transparency Initiative (EITI)
6. Global Reporting Initiative (GRI)
7. International Finance Corporation (IFC)

---

## 5.11 FIMI Awards

In order to motivate and recognize the efforts of the Indian mining industry for having addressed various sustainability challenges through exemplary ways, FIMI had constituted awards and SMI administers the FIMI Award Scheme. There are nine awards under various categories for the FIMI Award Scheme 2016-17:

### **Excellence Award**

1. Bala Gulshan Tandon Excellence Award

### **Environment Awards**

1. Subh Karan Sarawagi Environment Award
2. Abheraj Baldota Environment Award
3. Misrilal Jain Environment Award
4. Gem Granites Environment Award

### **Social Awareness Awards**

1. Sita Ram Rungta Social Awareness Award
2. NMDC Social Awareness Award

### **Health & Safety Awards**

1. Rio Tinto Health & Safety Award
2. Hindustan Zinc Health & Safety Award

---

The Awards and the assessment process is overseen by a distinguished Jury comprising of national experts. The Awards help in benchmarking the excellent standards adopted by the mining industry and in spreading the message of sustainable mining among the members.

During 2016-2017, 69 applications were received from 47 mines for various categories of Awards.

For FIMI Awards 2015-2016, following mines were considered as the Awardees:

**1. FIMI Golden Jubilee Award for Excellence (One – Time Award) –  
Bailadila Iron-Ore Mine (Bacheli Complex) of NMDC Limited  
(Dantewada, Chhattisgarh)**



View of the mine and covered  
down-hill conveyor



Dump Stabilization at the mine



Telemedicine Facility at  
Apollo Hospital in BIOM township



Pediatric ward at Apollo Hospital in  
BIOM township



School for children with special abilities and meeting with Hon'ble Prime Minister



Dumper Simulator for training and enhanced mine safety

## 2. Bala Gulshan Tandon Excellence Award – Sukinda Chromite Mine of TATA Steel Limited (Jajpur, Odisha)



Experiments at the mine to assess the suitability of various dump stabilization methods



Slope Stability Radar



Miyawaki Technique for Afforestation



Herbal Treatment Plant for Chrome ore beneficiation





Promotion of Tribal culture



Green barrier at the mine

### 3. Subh Karan Sarawagi Environment Award – Balda Block Iron Mine of M/s. Serajuddin & Co. (Keonjhar, Odisha)



Mining operations



Geo-coir matting on dumps



Truck Tyre Washing Unit



Afforestation at the mine



Brid's eye view of the beneficiation plant



Aesthetic view at the mine

#### 4. Abheraj Baldota Environment Award – Injepalli Limestone Mine of Kesoram Industries Limited (Sedam, Karnataka)



Rain water harvesting in mined out areas



Fixed Sprinkling system



Dust collector system



Avenue Plantation





Well maintained in-house nursery



Promoting Environmental Awareness

#### 5. Misrilall Jain Environment Award – John Mines of R. Praveen Chandra (Chitradurga, Karnataka)



Mobile dry fog dust suppression system



In-house Nursery



Afforestation of Waste dump slope/terrace



Rain water harvesting pond at Nursery



Safety zone plantation



Vermi compost pit

**6. Gem Granites Environment Award –  
Nawabpet – Talamanchipatnam Limestone Mine of Dalmia Cement (Bharat) Ltd.  
(Kadapa, Andhra Pradesh)**



Afforestation in ML area



Drill with dust control system



Water harvesting in mined out area



Closed conveyor belt





Water sprinkling on haul road



Aesthetic beauty of the mine area

## 7. Sita Ram Rungta Social Awareness Award – Jamul Cement Works Limestone Mine of ACC Limited (Durg, Chhattisgarh)



Women engaged in preparing different types of masala



Vocational Training on different trades



SHGs promoted by the mine selling their products



Coaching Center to prepare students for competitive exams

---

**8. NMDC Social Awareness Award –  
Sindesar Khurd Mine of Hindustan Zinc Limited (Rajsamand, Rajasthan)**



Assistance to secondary schools



Support to Anganwadi



Cattle vaccination



Assistance to farmers for  
livestock management



Blood donation camp



Free medical checkup



---

## 9. Rio Tinto Health & Safety Award – Wadi Limestone Mine of ACC Limited (Gulbarga, Karnataka)



View of mine and plant



Separate lane for vehicle movement



Safety induction



Safety meeting



Signage boards along  
Sump Fencing

Signage boards at the mine



Safety park

---

**10. Hindustan Zinc Health & Safety Award –  
Digwadih Colliery of TATA Steel Limited (Dhanbad, Jharkhand)**



Universal drill machine



Load Haul Dumper



Mock drill for fire extinguish



Man riding system



Drama on road safety



Safety awareness program

---

## 6. Way Forward

India, being the second most populated country with the largest percent of aspiring young generation, is witnessing a fast growth in middle class, leading to urbanization and infrastructure development. Mining is an important sector which contributes significantly to our gross domestic product and generates employment in remote and far-off regions. India is endowed with abundant reserves of key minerals such as iron ore, coal, bauxite, dolomite, gypsum, limestone, mica, chromite, manganese, zinc and graphite which accords significant opportunities in mining sector. However, there are many areas that need to be explored.

Many mining companies are involved in various voluntary initiatives to go beyond the social and environmental performance set by the legislation. Innovation and adoption of new technologies helps in the productivity of mining sector. While concerns for shortage of metals can be offset by improved technology but focus today is on other sustainability challenges such as access to land, mitigating the environmental impacts, perform high health and safety standards and managing community services. With the increase in rate of extraction, direct jobs in mining sector are also augmented.

Mining being a site specific activity needs to be more systematic to address the issues of its environmental and social impacts in a sustainable manner. The mining business has crossed geographical boundaries to face stiff global competitions. Fast and effective communication has increased the global networking and awareness. The complex regulatory system with poor governance and increased cases of illegal mining has disconcerted mining activities in the country. All these factors resulted in the following emerging issues:

1. Growing concerns of inequality, impacts of project affected families, mines safety, community health, water consumption, climate change, biodiversity loss, cultural diversity loss, etc.
2. “Concerns” shifting to “Rights” through intervention of judiciary system, green tribunals and NGO activities.
3. Increasing public pressure for transparency and accountability on business houses.
4. Antagonism up.
5. Thrust on collaboration approach by all industry members to resolve the issues.
6. Imperative innovation in mining.

---

Under the situation of huge growth potential of mining industry in the country coupled with these emerging trends, Sustainable Mining Initiative (SMI) envisages pivotal role to assist its member by updating critically on anticipating changes and emerging issues so that members can better understand evolving values, proactively address risks, avoid crises and serve in a leadership position in resolving issues of public concerns. It is necessary to improve the basic building blocks of governance required for the extractive industry to contribute to sustainable development.

Our focal thrust areas for future are:

1. Communicating the importance and contribution of mining and metal sector in the sustainable socio-economic development of the nation.
2. Facilitating the strengthening of mining industry and community relationship.
3. Providing technical support for better environment & climate change management, and better health and safety performance over and above the regulations.

SMI will keep evolving itself in developing comprehensive programs and models which will help in identification and mitigation of sustainability related risks in the Indian mining industry.

## KEY ACTION POINTS OF CODE OF CONDUCT

### **Principle 1**

1. Integration of sustainable principles into company policies.
2. Plan, design, operate & close operations to enhance sustainable development.
3. Encourage and ensure good practice & innovation to improve sustainable performance.
4. Encourage customers, business partners and suppliers of goods and services to adopt principles that are comparable to our own.
5. Provide sustainable development training at all levels.
6. Support public policies and practices that foster open and competitive markets.

### **Principle 2**

1. Develop and implement ethical business practices.
2. Comply with or continually exceed the requirements of the laws and regulations.
3. Work with the governments, industry and other stakeholders to evolve appropriate public policy, laws and regulations that contribute to national sustainable development.

### **Principle 3**

1. Conduct base line survey.
2. Stakeholder's engagement in management of social, health, safety, environmental and economic impacts.
3. Undertake risk management systems.
4. Inform potentially affected parties of significant risks.
5. Develop and maintain effective emergency response measures.

### **Principle 4**

1. Focused systems for improvement of all aspects of operations that could have impact on the health and safety.
2. Provide necessary medical facilities.
3. Talk all practical measures to eliminate workplace fatalities, injuries and diseases.
4. Provide all employees and those of contractors with health and safety training.
5. Implement regular health surveillance and risk based monitoring of employees.



---

### **Principle 5**

1. Assess the positive and negative, the direct and indirect and the cumulative environment impacts of new projects.
2. Focused environmental management system to mitigate adverse environmental impacts.
3. Involve local communities and authorities to avoid or minimize local and regional environmental impacts.
4. Rehabilitate land disturbed or occupied by operations with appropriate post mining land uses.

### **Principle 6**

1. Ensure fair remuneration and work conditions and ban forced, compulsory or child labour.
2. Provide for the constructive engagement of employees in upholding the freedom of association and right to collective bargaining.
3. Implement policies and practices to eliminate unfair discrimination.
4. Provide all staffs including subcontractors with appropriate cultural and human rights training.
5. Minimize involuntary resettlement and compensate fairly for adverse effects on the community where they cannot be avoided.

### **Principle 7**

1. Respect legally designated protected areas and culturally sensitive sacred grooves.
2. Emphasis on restoration of natural ecosystems to rebuild local bio diversity.
3. Disseminate scientific data and promote practices in biodiversity assessment and management.

### **Principle 8**

1. Advance understanding of the properties of mined out resources and their lifecycle effects.
2. Conduct and support research that promotes effective use of resources.
3. Develop and promote the concept of integrated resource management.
4. Provide regulators and other stakeholders with scientifically sound data.
5. Support the development of scientifically sound policies, regulations, standards and material choice decision that encourage the safe use of mined out material.
6. Provide for safe storage and disposal of residual wastes and process residues.



---

### **Principle 9**

1. Engage community to discuss and respond to issues and conflict concerning the management of social impacts.
2. Involve affected communities in developing work programs and determining outcomes.
3. Encourage partnerships with governments and non-governmental organizations for effectively delivered of programmes.
4. Contribute to skill and capacity building of individuals and community groups.

### **Principle 10**

1. Engage with and respond to stakeholders through open and a participative consultation process.
2. Constantly document and report on economic, social and environmental performance.
3. Exchange data, implementation procedures, and experiences even personal wherever necessary.
4. Provide information that is independently verifiable.